

# Point Slope Form

Are you taking notes?

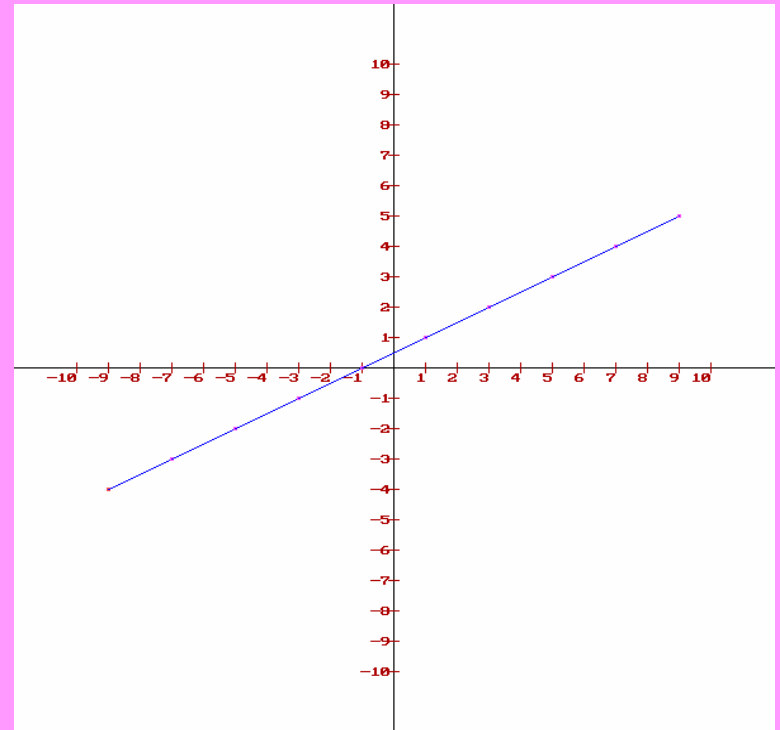
# Point Slope Form

- You need a point!  $(x_1, y_1)$
- You need a slope!  $m$
- This is point slope form
$$y - y_1 = m(x - x_1)$$

# Example #1

Write an equation and graph.

- Given the point (3,2).
- Given the slope  $m = \frac{1}{2}$
- Can you write the equation?
- $y - 2 = \frac{1}{2} (x - 3)$



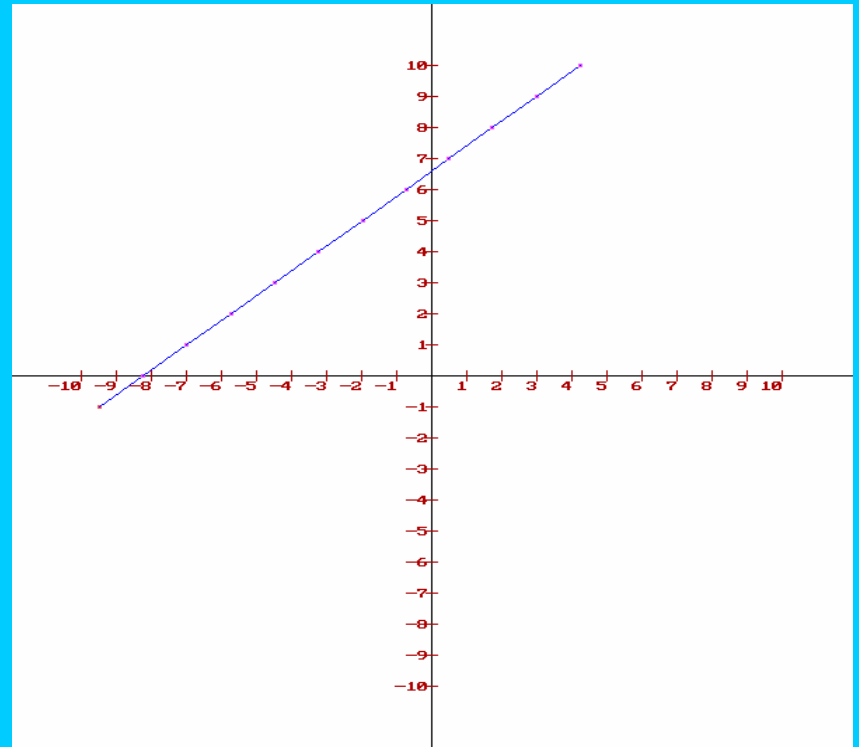
# Example #2

Write an equation and graph.

- Given the point  $(-2, 5)$
- Given the slope  $m = 4/5$
- Can you write the equation?

$$y - 5 = \frac{4}{5}(x - (-2))$$

$$y - 5 = \frac{4}{5}(x + 2)$$



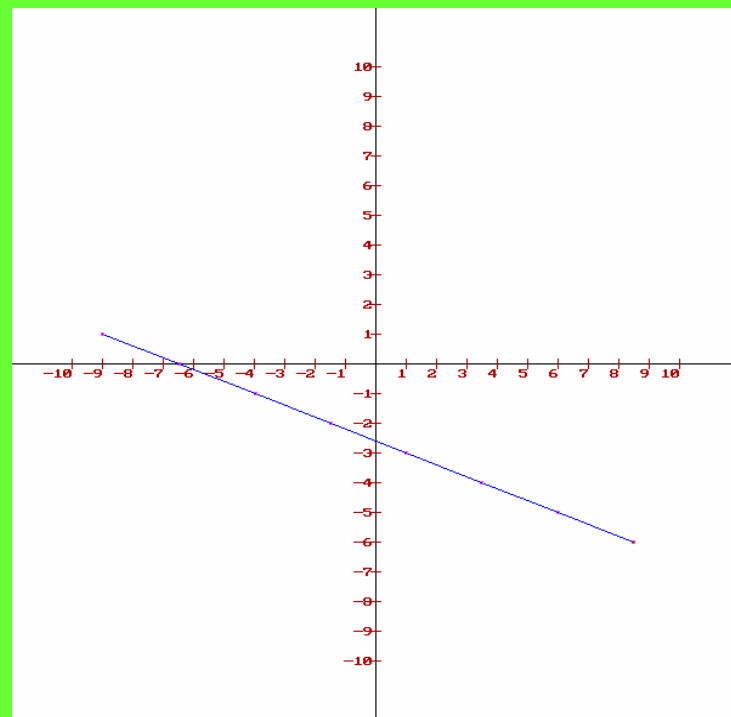
# Example #3

Write an equation and graph.

- Given the point  $(-4, -1)$
- Given the slope  $m = -\frac{2}{5}$
- Can you write the equation?

$$y - (-1) = -\frac{2}{5}(x - (-4))$$

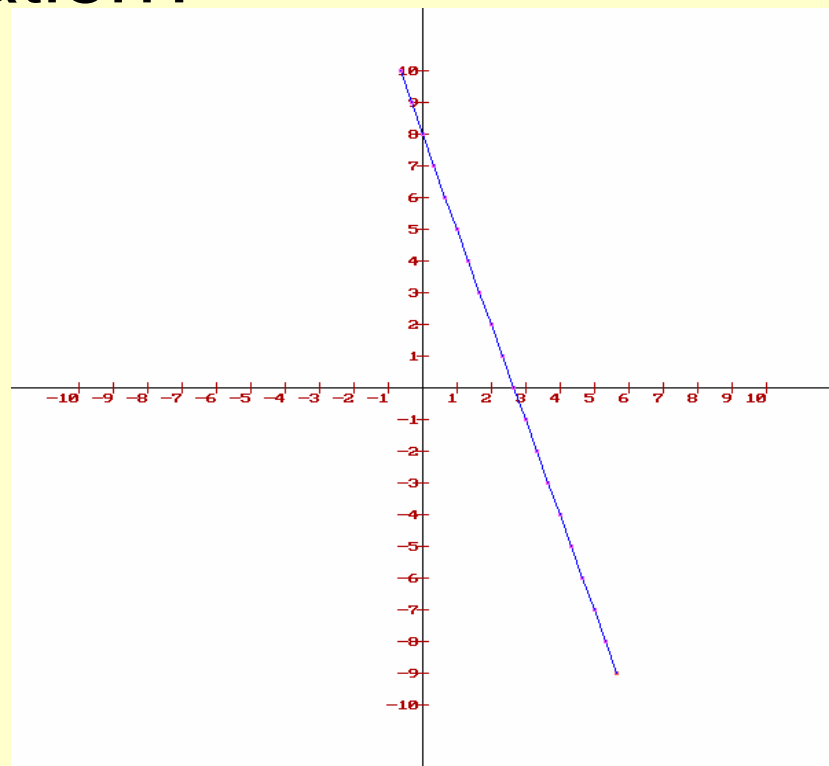
$$y + 1 = -\frac{2}{5}(x + 4)$$



# Example #4

Write an equation and graph.

- Given the point (2,2)
- Given the slope  $m = -3$
- Can you write the equation?
- $y - 2 = -3(x - 2)$



# Example #5

- Given the two points (1,6) and (-3,-2) write an equation in point slope form.
- Find the slope
- $m=2$
- Write the equation, use the first point.
- $y - 6 = 2(x - 1)$

# Example #6

- Given two points (4,-1) and (-4,-3) write an equation in point slope form.
- Find the slope
- $m = 1/4$
- Write the equation, use the first point.
- $y + 1 = \frac{1}{4}(x - 4)$